DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017620
Date Inspected: 26-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name: Tom Pasqualone and William Sherwood

CWI Present:	☑ Yes	☐ No					
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 3E-PP19.5-E5-LSE longitudinal stiffener underneath the ventilation access hole inside, QA randomly observed ABF welder Xiao Jian Wan ID #9677 perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) back welding cover pass on the stiffener splice butt joint. The joint has a double V joint preparation that was welded from one side using E9018H4R with 1/8” diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded was root welded using a ceramic backing, fully welded from one side then back gouged and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. During the shift, the welder has completed back welding the east longitudinal stiffener (LSE) and held the preheat maintenance of more than 200 degrees Fahrenheit for three hours as required. After the holding time was completed, the welder has moved to west longitudinal stiffener (LSW), clamped the heater blanket and when the required preheat was attained, welded root pass implementing the same WPS as mentioned above. The QA Inspector noted the ABF QC John Pagliero was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018 electrodes due to its limited exposure time allowed. At the end of the shift, fill pass welding on stiffener LSW was still continuing and should remain tomorrow.

At OBG 3E-PP23.5-E2-LSE longitudinal stiffener underneath the ventilation access hole inside, QA randomly observed ABF welder Hua Qiang Hwang ID #2930 perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) back welding cover pass on the stiffener splice butt joint. The joint has a double V joint preparation that was welded from one side using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded was root welded using a ceramic backing, fully welded from one side then back gouged and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. After completing the MT of the back side excavation, the welder has resumed welding fill pass on the splice butt joint. The QA noted the ABF QC John Pagliero was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018 electrodes due to its limited exposure time allowed. At the end of the shift, fill pass welding on stiffener LSW was still continuing and should continue tomorrow.

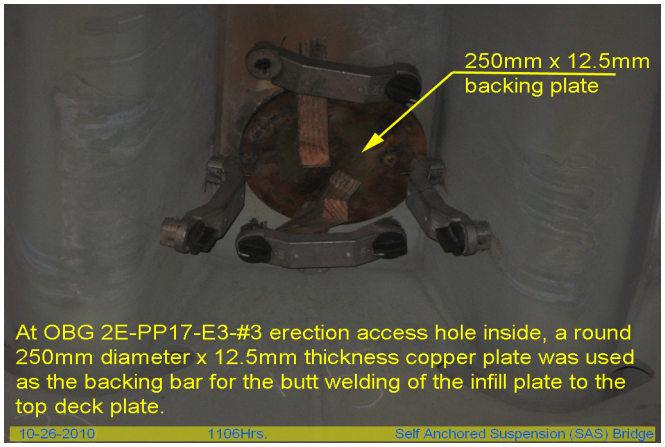
At OBG 2E-PP17-E3#3 and 2EPP11-E2-#4 top deck plate 'A' erection access holes outside, QA randomly observed ABF/JV qualified welders Eric Sparks and Darcel Jackson perform CJP groove welding root pass then fill pass on the infill plates to top deck butt joints. The welders were observed respectively welding in the 1G (flat) position utilizing Shielded metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1070. The infill plates have single bevel of 45 degrees and 5mm root gap to deck plate with 250mm diameter x 12.5mm thickness copper backing plate. During the shift, ABF QC Mike Johnson was noted monitoring the welders. ABF welder Darcel Jackson has completed welding cover pass on the 2E-PP11-E2-#4 and has moved to 2E-PP15-E2-#3 erection access hole. The welder has welded the root pass then fill pass before the end of the shift.

At 2E-PP15-E4-#1 top deck plate 'A' erection access hole outside, ABF QC Patrick Swain was observed performing Ultrasonic Testing (UT) on the welded butt joint. QC was using General Electric USM35 ultrasonic machine. QC was also observed scanning from both sides of face 'A' of the joint. During the shift, ultrasonic testing on the butt joint was completed and QC has found two rejectable indications.

At OBG 6E/7E edge plate 'B' outside, QA randomly observed ABF/JV qualified welder Fred Kaddu ID # 2188 perform CJP groove welding first time repair. The welder was observed welding in the 3G (vertical) position utilizing Shielded metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1001-Repairs. The boat shape repair excavation having Y-dimensions of 780mm to Y-820mm was having 40mm long x 27mm wide x 11mm deep excavation. The boat shape repair excavation was preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC Jesse Cayabyab was noted monitoring the welder. Prior welding, ABF QC Jesse Cayabyab was also observed performing Magnetic Particle Testing (MT) using Parker Contour Probe with red magnetic powder as detecting media on the repair excavation. There were no significant defects noted during the test.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer